

**ABSTRACT**

A diesel engine with a supercharger, which hardly has an adverse effect on performance even if a fuel of inferior ignitability is used, is provided. For this purpose, the diesel engine includes a supercharger (1) for supplying pressurized supercharged air into a cylinder (31), and a heat exchanger, which is provided in a supercharged air passage from an outlet port of the supercharger to an inlet port of the cylinder, and the heat exchanger is a hybrid type of heat exchanger (2) including a first heat exchanger (2a) for carrying out heat exchange between the supercharged air from the outlet port of the supercharger and a first heat exchange medium, and a second heat exchanger (2b) for carrying out heat exchange between the supercharged air from an outlet port of the first heat exchanger and a second heat exchange medium having higher temperature than the first heat exchange medium.